

04/04

LDR 8565
RESEARCH ACTIVITIES IN LEADING A
LEARNING ORGANIZATION
Course Syllabus
by
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Revised Summer 2004
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A. COURSE DESCRIPTION

Students will engage in research activities in support of the course LDR 8550, Leading a Learning Organization. In LDR 8565 students will be introduced to some of the major research methodologies used in dissertations: correlational, causal-comparative, and experimental studies. Students will identify a topic and design a proposal using one of the above the research models. Students will not carry out the proposed research in this class. During this course students are invited to start thinking about a possible dissertation topic based on leadership and the student's specialization area. Research activities will include extensive use of web-based technologies.

B. LEARNING OUTCOMES

Upon successful completion of the course, the participants will be able to:

1. Identify major elements of research methodology.
2. Write a problem statement.
3. Design a proposal for a project using research methodology.
4. Locate critical course and program information.
5. Successfully complete course work in an on-line environment.

C. REQUIRED TEXTS/IMPORTANT WEB LINKS

Charles, C. M., & Mertler, C. A. (2002). *Introduction to educational research*. (4th ed.). Boston: Allyn and Bacon.

American Psychological Association. (2001). *Publication manual of the American Psychological Association*. (5th ed.). Washington, DC: Author.

Applied Research Office Home: <http://www.fgse.nova.edu/aro/index.htm>

FSG/Educational Impact Electronic Textbook. To be purchased at the Educational Impact Web site: <http://www.educationalimpact.com>

FGS/Organizational Leadership Homepage:
<http://www.fgse.nova.edu/orgleader>

Mills, P. K. (2002, August). *Form and style guidelines for course papers*. Fort. Lauderdale, FL: Nova Southeastern University
<http://www.nova.edu/fgse/orgleader/resources/formnstyle.pdf>
(Note that on page 4 regarding levels of headings, the third level heading should be indented, italicized, and the first word and proper nouns only should be capitalized. The third-level heading should be followed by a period and then text on the same line. These levels of headings correspond with APA Levels 1, 3, and 4 as per the discussion in APA on pages 114-115, section 3.32.)

Mills, P. K. (2003). *Guide to the applied dissertation process*. Fort Lauderdale, FL: Nova Southeastern University.
This resource can be found at the Applied Research Office:
<http://www.fgse.nova.edu/aro/pdf/guidedol.pdf>

Mills, P. K. (2003, June). *Style guide for the applied dissertation*. Fort Lauderdale, FL: Nova Southeastern University.
This guide can be found at the Applied Research Office:
<http://www.fgse.nova.edu/aro/pdf/sgad.pdf>

NSU Electronic Resources: <http://www.nova.edu/library/electlib>

NSU WebCT: <http://www.nova.edu/webct/>

In LDR 8565 you are required to read chapters 8, 12, 14, and the appendix in *Introduction to Educational Research*. The information in the chapters and the appendix will assist you in completing course assignments.

D. COURSE REQUIREMENTS

Three chats – 15 points (5 points each maximum – attendance and participation)
Assignment 1 – Problem Statement – 20 points
Assignment 2 – Proposal for Research Study - 65 points

Your course instructor for LDR 8565 will provide you with more detailed information regarding the grading criteria for each assignment.

Chats

The purpose of chat 1 is to discuss the correct way to write a problem statement using the research model for assignment 1. Students will share their statements and analyze each other's work. Elements of research methodology and topics covered in chapters 8, 12, 14, and the appendix of the text also will be discussed.

The focus of chat 2 will be the development of a proposal using research methodology. Components of a proposal will be discussed, including those described in this syllabus under CONTEXT and INPUT. The requirements of assignment 2 will be reviewed.

In chat 3 students will share assignment 2. Specific guidelines for this discussion will be provided by the instructor.

Your LDR 8565 instructor will notify you of the dates and times of the chats.

E. GRADING

LDR 8565 is graded according to the NSU grading policy. In LDR 8565 final grades will be assigned as follows:

- ◆ A = 100-90 points
- ◆ B = 89-90 points
- ◆ F = 79 points or below
- ◆ I = Incomplete
- ◆ AW = Administrative Withdrawal

No plus or minus grades (e.g., A-, B+) are used in the Organizational Leadership (OL) doctoral program. A grade point average of at least 3.0 (“B”) is required for retention in the program. A grade of Incomplete (“I”) must be negotiated with the course instructor. The “I” grade is assigned when the student has completed the majority of the assignments. A student who has not completed any assignments at the end of the course is not eligible for an “I”. An “I” must be made up by the date stipulated by the course instructor. The longest period of time that may be granted to a student is one term. A grade of “F” will automatically appear on a student’s permanent record, if course requirements are not met on time.

For additional information regarding grade assignments in the OL program, see the *Student Handbook of Policies and Procedures*.

F. ASSIGNMENTS

Assignment 1

You will write a comprehensive problem statement that you plan to develop into a proposal using the research methodology. You may choose a topic from LRD 8550, from your work setting, or from another organizational context. A well-defined problem statement anchors a research project. The statement must address a problem that actually exists within an organization. It must include the major elements of the existing problem. The problem statement also must be supported by existing data. Sources of data can come from quantitative sources, personal discussions/interviews, and/or a review of the literature.

Your problem statement actually consists of one or two paragraphs that clearly articulate the problem. It is a good idea to begin with: “The problem is that...” Once your problem statement is approved, you will use it to begin the proposal of a project using a research paradigm discussed in this class.

Assignment 2

The purpose of this assignment is to give you the opportunity to create a **proposal** for a

project/study using one of the research methodologies from this class (correlational, causal-comparative, or experimental). You will create a proposal based on the problem statement in assignment 1. The research methodology guidelines that follow provide theoretical information about how to create a study based on research methodology models. Read the guidelines carefully.

The proposal you will write will contain specific elements of the research methodology presented within the framework of the dissertation proposal. (See the *Guide to the Applied Dissertation Process*.) This requires you to adjust a few elements of the research model into the structure of the dissertation proposal. In the guidelines in this syllabus the entire process from proposal to final report is presented. You are responsible for creating the **context and input** sections for the proposal. The process and output components speak to the implementation and results stages contained within a final report. You are **not** responsible for the process and output components in LDR 8565.

Your research instructor will provide assistance and additional guidelines regarding this assignment.

Guidelines for the Research Methodology Proposal

(Adapted from Research Methodology Learning Activity Package: A Guide to the Experimental or Quasi-experimental Research Practicum by Gary Rankin, Ph.D. Program for Higher Education, Nova Southeastern University)

In experimental research, the researcher investigates possible cause-and-effect relationships by exposing one or more groups to a treatment. The results are then compared to one or more control groups not receiving the treatment. The researcher is interested in testing theories and explaining relationships. Thus, experimental research must

- be comparative or determine a relationship,
- have a formal research hypothesis,
- test a null hypothesis,
- establish a decision rule determined by the level of significance, and
- use inferential statistics.

For purposes of the research proposal, ex post facto, quasi-experimental, or true experimental designs must be used to meet the above criteria of experimental research.

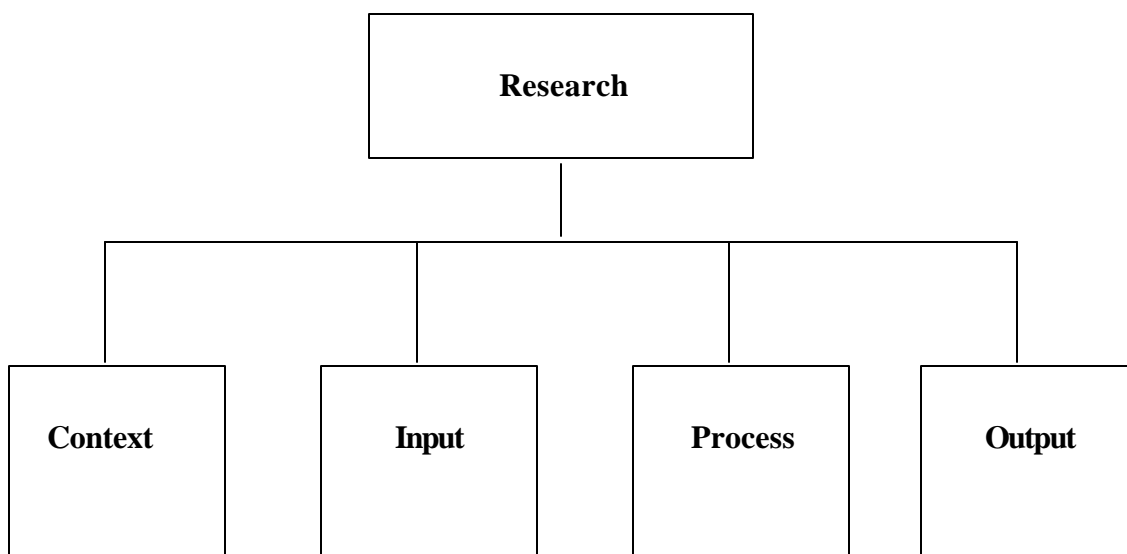
Ex Post Facto: The treatment condition(s) has already occurred and the researcher uses existing data to make comparisons or determine relationships.

Quasi-experimental: The researcher manipulates the independent variable(s) but lacks control of other relevant variables. This may occur when subjects cannot be selected randomly (i.e., intact or existing groups) or when, though random selection is done, there is still lack of control of other variables.

Note: Due to the lack of control of extraneous variables that exists in both ex post facto and quasi-experimental research designs, evidence must be presented to support an assumption that the groups being compared were drawn from the same population and are assumed to be equivalent. Only in ex post facto and quasi-experimental research designs can the researcher assume that inferences can be drawn and generalized to the population.

True experimental research: Subjects are randomly selected from a population, randomly assigned to receive the treatment condition, and greater control of extraneous variables can be exercised by the researcher.

The experimental research process for planning and conducting an experimental research study consists of 13 steps that can be grouped in this manner:



CONTEXT

The first group of steps in developing an experimental research proposal and report can be called context, for they provide the background on the situation and focus of your particular study (all belong in Chapter 1 of the final report).

Context includes the following:

- Nature of the Problem
- Purpose of the Study
- Background and Significance of the Problem
- Relationship to the Organizational Leadership
- Research Questions
- Research Hypothesis
- Definition of Terms

Nature of the Problem

As you know, the first step in any research study is the description of a situation that poses questions for which you do not know a certain answer. For example, you may wonder whether students with dependent learning styles have higher achievement when taught by dependent or independent instructional techniques. To use your situation as the subject of an experimental research design, however, you must first describe the situation's context so clearly that a reader or reviewer understands it. This description should contain:

- a brief history of the situation in your organizational context;
- a specific, succinct definition of the situation;
- your proposal of a general solution;
- the impact of the existing situation (i.e., why it is a problem);
- the potential impact of a solution; and
- the implications of a solution on the situation, the organization, and educational practice in general.

This information should result in a succinct problem statement.

A problem statement describes the existing *situation that needs to be addressed* by a research study.

Examples:

- It is unknown whether students with dependent learning styles have higher achievement when taught by dependent or independent instructional techniques.
- It is unknown whether students who take a certification exam after a curriculum redesign will fare better than those who took the exam prior to the redesign.
- It is unknown whether employees who participate in an orientation program have a longer length of service than those who do not participate.

Purpose of the Study

The purpose of an experimental research study follows directly from the statement of the problem. If the problem is succinctly stated, then the purpose is to solve the problem by implementing an experimental research design. **Note: If more than one dependent variable is studied, more than one purpose should be stated.**

Examples:

- The purpose of the study is to determine whether students with dependent learning styles have higher achievement when taught by dependent or independent instructional techniques.
- The purpose of the study is to determine whether students who take a certification exam after a curriculum redesign will fare better than those who took the exam prior to the redesign.
- The purpose of the study is to compare the length of service of employees who participate in an orientation program with those who do not participate.

Significance to Institution

The amount of time and effort you will expend on your study demands that two other considerations be made. What is the significance of your study to your institution? Since one purpose of OL study is to apply learning in the workplace, the project should add some value to that workplace.

Examples:

- Determining whether students with dependent learning styles have higher achievement when taught by dependent or independent instructional techniques will allow the university to guide students to courses with appropriate instructional techniques, to broaden their learning styles, or to vary instructional style. Any of these options will allow the university to better achieve its mission of fostering learning at the undergraduate level.
- If students who take a certification exam after a curriculum redesign fare better than those who took the exam prior to the redesign, then the institution can consider the redesign of other similar curricula. If the students do not fare better, then the previous design can be reinstated, in either case, the institution will have furthered its goals of providing education that will enable students to improve their career opportunities.
- If employees who participate in an orientation program have a longer length of service than those who do not participate, the corporation may choose to make orientation mandatory.

Relationship To Organizational Leadership

Of course, since proposal is the application of what you have learned, you need to connect the content to organizational leadership to it. You will use the research methodology.

Research Questions

Research question(s) focus your study. Depending on your purpose, there may be more than one question you need to answer to propose a solution. Usually, the questions are framed in a closed-ended style (answerable in one or a few words).

Examples:

- Do Nova Southeastern University undergraduate students with dependent learning styles have higher achievement when taught by dependent or independent instructional techniques?
- Do Alpha College nursing degree students score higher on the nursing certification exam after

- the curriculum redesign than those who took the exam prior to the redesign?
- Do Omega Corporation employees who participate in an orientation program have a longer length of service than those who do not participate?

Research Hypothesis

The research hypothesis is a declarative statement of the researcher's expectations of the outcome of the study. The hypothesis is formulated by the researcher based upon the related literature, previous experience, accepted theory and knowledge, and, at times, intuition. It should include the identification of the independent variable, the dependent variable, and the nature of the measurement. The direction of the research hypothesis describes the direction of the alternative hypothesis and region of rejection. **Note: If more than one research question is asked, then the same number of research hypotheses should be indicated.**

- **Independent variable:** A variable selected and manipulated by the researcher as the one that defines (causes) the solution. In the simplest experimental design, the researcher will identify two groups, one to receive a treatment (treatment or experimental group) and the second to receive no treatment (control group). In this example, there are two categories of the independent variable: treatment and no treatment.
- **Dependent variable:** The outcome (effect) or measured variable of interest presumed to be dependent on the independent variable (treatment). The observed or measured values of the dependent variable are said to occur as a result of the manipulation of the independent variable.
- **Nature of the measurement:** What specific instrument will you use to measure the dependent variable? Scores on what test (interval)? What categories (nominal)? Rank order (ordinal) of what?

Whether the measurement is a research-constructed questionnaire or a well known, published test, questions of reliability and validity must be asked.

Definition of Terms

The final contextual piece you need to consider are those words and phrases that may not mean the same to you and a reader or reviewer of your study. Simply, if you are using a term whose meaning is not common to everyone, define it. Your reader will then know the context within which you are using it. Terms should be arranged alphabetically. All independent and dependent variables should be specifically defined.

Examples:

- The term dependent learning style is used to define those learners who learn best in a student-teacher setting where the teacher is physically present.
- Alpha College nursing degree students are those enrolled as full or part time active students

- within one semester of completing the requirements for the Bachelor of Nursing degree.
- An Omega Corporation employee is defined as a full-time employee.

INPUT

The second of the four parts of the process of conducting an experimental research project consists of the input to your study:

Literature Search

While the literature search can technically be considered an input to the research process, it is very nearly an ongoing input, for you may see the need to search the literature several times while preparing for and conducting your study, then synthesizing the data derived from your research. The literature search in an experimental research study can result in information on the research process, designs, and tools as well as on studies similar to yours. You may need information on:

- Whether or not your underlying problem has been documented elsewhere, as well as information on how to construct a clear purpose, hypothesis, and definition of terms.
- Treatments of problems similar to yours as well as information on various research designs, procedures, data collection technologies and tools, and construction of null and alternative hypotheses.
- Results of similar studies, including conclusions, discussion, and recommendations, as well as the impact of any decisions resulting from the study. Remember to include opposing points of view and to summarize your findings.

***Note:** The literature review in the proposal is brief (fifteen sources at a minimum). Be sure to include at least two resources from Educational Impact in your literature review. For the project and report, your literature search should be more extensive and reported in Chapter 2 of the report. Unless you are dealing with "classic" works, your sources should be confined to the last five years.*

Research Plan In the dissertation proposal, the research plan is called Methodology and Procedures. Simply, procedures are the recipe you will use to conduct your experimental research study. They are a thorough and detailed list of steps involved in collecting, analyzing, and reporting data. Two major parts of the plan involve data collection and data analysis.

- Data Collection describes what, why, how, and who of the research study.
 - **Population:** The population is the group to whom you will generalize your results (e.g., all current and future biology students).
 - **Sample:** If subjects are used, describe who they are, how they were selected (intact, volunteers, random), when they were selected, and who selected them. Also indicate the population from which samples were

selected (or the population the sample is assumed to represent if intact groups were used).

- **Instrument:** If used, describe the instrument, how it was administered and scored, and give information on its reliability and validity (as reported for published instruments or as identified for self-made instruments). Also include the instrument in the appendix. Remember to obtain permission to reproduce published instruments.
- **Treatment:** If analyzing a program, a complete description of the program is necessary. Describe, in detail, the interventions for each group. If using an experimental and control group approach, describe all treatments so completely that the study could be replicated.
- Data Analysis refers to testing the null hypothesis, listing the alternative hypothesis(es), specifying the level of significance and region of rejection, and identifying the statistical test used.
 - **Null hypothesis** is covered in the next section of this chapter.
 - **Alternative hypothesis** is covered in the next section of this chapter.
 - For more information on the **level of significance, region of rejection (one or two-tail), and statistical tests**, refer to the course textbook.

Note: Deciding which research design to use and how to sequence the steps might involve another journey to the literature, so plan your time accordingly. In the proposal, procedures tell the reader what you intend to do; in the report, the procedures tell the reader what you did. Thus, the proposal is in the future tense; the report is in the past tense.

Null Hypothesis

- Statement of the hypothesis in null or no difference form.
- The purpose of a null hypothesis is to test whether there is a statistically significant difference or relationship between the variables.

Examples:

- There is no significant difference in achievement level among Nova Southeastern University undergraduate students with dependent learning styles when taught by dependent or independent instructional techniques.
- There is no significant difference in certification test scores among Alpha College nursing degree students after the curriculum redesign than prior to the redesign.
- Omega Corporation employees who participate in an orientation program have no significant difference in length of service than those who do not participate.

Note: There must be a separate null hypothesis for each dependent variable specified in the purpose.

Alternative Hypothesis(es)

- For each null hypothesis, there must be an alternative hypothesis.
- If there is a directional research hypothesis (i.e., a decision will be made only if the direction of the difference is positive) one alternative hypothesis will be stated.
- If the research hypothesis is non directional (i.e., the decision to change will be made whether the difference is larger or smaller) two alternative hypotheses should be presented.

Examples:

- If the final grades among Nova Southeastern University undergraduate students with dependent learning styles are predicted to be higher when taught by dependent instructional techniques, then one alternative hypothesis can be used. If the final grades among Nova Southeastern University undergraduate students with dependent learning styles are predicted to be the same whether independent instructional or dependent instructional techniques are used, then two alternative hypotheses are needed.
- If certification test scores among Alpha College nursing degree students are predicted to be higher after the curriculum redesign, one alternative hypothesis is appropriate. If certification test scores among Alpha College nursing degree students are not predicted to be higher following curriculum redesign, two alternative hypotheses are needed.
- If Omega Corporation employees who participate in an orientation program are predicted to have longer lengths of service than those who do not participate, a directional or single alternative hypothesis should be used. If Omega Corporation employees who participate in an orientation program are predicted to have lengths of service equal to those who do not participate, then two alternative hypotheses should be stated.

Assumptions

General: The primary assumptions used in quantitative research designs relate to validity (internal and external) of the particular research design as well as the validity of the measures or techniques used to collect information and data in the study.

- When expert panels are used to establish validity, there is an assumption that the experts are able to perform this task (validate instruments, goals, objectives, etc.) accurately.
- Since your research study will be conducted within the context of your specific environment, it is generally assumed that the results of the study will be valid for that environment.

Specific: In order to carry out the specific design components of a research study, assumptions are made about the procedures. Think about the assumptions you have made about:

- Sampling: Have you assumed a representative sample?
- Measurement techniques. Were you able to compute the reliability of the instrument, or are you assuming its reliability?

- Conditions for selecting a statistical test. Do you have evidence that these conditions were met or are you assuming they were?

Limitations

General: Limitations are those things your study cannot do. The most common general limitation of any research project is whether or not the results are generalizable because the data and information obtained for the study pertains to specific programs or activities in a unique environment.

Specific: In every research study, the procedures used to conduct the study have limitations specific to them. Think about the limitations of the specific research design you used. Be sure to include any limitations surrounding:

- sampling.
- measurement techniques.
- statistical treatments.

PROCESS

The third component in the process of developing a proposal using the experimental research design is actually carrying out the plan (i.e., conducting the study). You do not need to do this part. It is the implementation stage of the dissertation.

Carry Out Research Plan

If your plan has been carefully constructed, if it operationally defines every step in concrete terms, and if the time lines have been thoughtfully constructed, all you have to do is follow your plan to complete your research study. Here are some tips from current and former PHE students on carrying out plans:

- Pre-plan, design, and construct a means of recording and or tabulating your data--before data collection begins. You run less risk of being overwhelmed or losing some data.
- Make no personal assumptions on validity or reliability of instruments or tools-- collect the evidence yourself, whether through literature search, expert panels, or historical data.
- Depending on your comfort style, make arrangements to acquire the expertise you need to work with inferential statistics. At the least, you should be familiar with the various tools and their appropriate uses. You may also want to acquire some expertise in using computer software to perform the statistical calculations. Finally, you may want to make arrangements with someone else to perform the calculations for you. Any of these alternatives need to be included in your plan and reported in the procedures. Resources include textbooks, audio tapes, workbooks, and courses at your local community college or high school. Don't forget that major sources of help are available through your cluster personnel.
- Depending on your personal style, build a 20-35% time cushion into the plan to accommodate mail delays, unexpected snags, or unexpected complications in

your personal life.

- Block a set amount of time into your calendar daily for this project. Confronted all at once, an experimental research study can seem overwhelming--even intimidating. Blocking calendar time for each step of your plan breaks the study into manageable chunks that may even seem easy.

Collect and

Analyze Data In collecting data, the plan is as important as the activity, for a poor plan results in poor or incomplete data. Such data may result in scholarly errors and biases, which could sabotage your project.

Make sure your data collection considers:

Consider . . .	Tips/Sources of Information
Data Collection Techniques and Tools	Review your text for the research course as well as some of the resources in the OL bibliography list.
Level of Measurement	At which level of measurement (nominal, ordinal, interval, or ratio) will your dependent variable(s) be reported?
Number and Size of Groups	Will you have enough subjects in each group to have a valid study? How many groups of subjects will you use to carry out the research plan?
Data Tabulation and Recording	Your planning should include provision for tabulating and recording raw data. Design/acquire these tools as part of your preparatory work.
Statistical Techniques	What statistical techniques will you use to analyze the data collected? Will you need descriptive statistics in addition to the inferential statistics required by your study? Will you use a software package? Do you have it or access to it? Do you need to schedule shared computer time? Will you do the statistics yourself or negotiate with or hire someone else to do this task?
Treatment	What will be the nature of the treatment applied to your groups? What is the content? How long will the treatments last? How will you administer them? How will they be measured? Has the treatment already occurred (ex post facto)?
Time	It takes time to craft the evaluation tools, but it also takes time to collect, tabulate, and analyze data. Don't forget the time lag between sending and receiving questionnaires, for example. Build in a comfortable cushion to allow for best use of your time.

Analyze Data In data analysis, data collected are compared with the objective criteria established at the start of the project. For a research proposal, inferential statistics will be used. In addition, you may also use descriptive statistics. The key is to plan your data analysis before your data are collected, to prepare for data acquisition and recording, and to conduct the data analysis according to the design you described in the proposal. If, however, you find it necessary to alter your design or plan while conducting your study, the changes need to be explained in a cover memo submitted with the dissertation report.

OUTPUT

The final components in the process of conducting an experimental research study are the results (reported in Chapter 4 of the report) and the discussion, conclusions, implications, and recommendations (reported in Chapter 5 of the report). You are not responsible for writing this components in this course.

Report Results The purpose of the results chapter is to present the outcomes of the data collection and data analysis and to answer the research questions. This presentation should include only the facts and should not contain discussion, detailed procedure, or interpretation. Generally, a report of results includes:

- Tables
- Figures
- Statistics used in testing the null hypothesis, which may include:
 - means
 - standard deviations
 - observed and expected frequencies
 - degrees of freedom
 - calculated and critical values of the test statistic
 - probability (both level of significance and p-value)
 - significance of the statistic vis-à-vis the null hypothesis
- Citation of any tables, figures, or charts in the text prior to their appearance
- Reference to the presentation of voluminous raw data in one or more appendixes of the report

Discussion, Conclusions, Implications, and Recommendations

This final chapter of your dissertation report should discuss and interpret the results in relationship to the underlying problem and purpose of your study. It should include:

- the relationship of your findings to those of other researchers in similar studies. Did your study agree or disagree with others? To what degree? What were the similarities and differences?
- the relationship of your findings to other studies in light of the assumptions

and limitations of your study.

- specific conclusions in relation to the internal validity, the nature of the problem, and the findings of other researchers.
 - potential implications for educational practice.
 - recommendations which relate to the conclusions, defining specific actions required to solve the underlying problem.
 - suggestions for further research required to confirm current results.
 - to whom you will disseminate the results.
-